Roxar’s leading technology for multiphase flow metering is also available also without a gamma densitometer.

The non-gamma version of the MPFM 1900VI® applies the same well proven technical solutions as the standard meter, which is considered among the most accurate multiphase meters available.

**Key characteristics:**

- Extensive worldwide track record
- Simple installation
- Low maintenance requirements
- Reliable and rugged hardware
- Low power consumption
- Dual velocity method for powerful flow regime handling
- In-line
- No mixer and no separator required
- Low pressure loss
- Highly tolerant to variations in influencing parameters
- Redundancy and self verification
- Independent of changes in H₂S, CO₂ and viscosity

**Technology**

As a result of in-house technology innovation, Roxar has developed the multiphase meter software and enhanced signal processing enabling measurement of flow rates of oil, gas and water without utilizing a radioactive source. In all other aspects the meter design is identical to the standard MPFM 1900VI®.

The signal processing method is based on improved algorithms for time series analysis, and analyses the variation in permittivity measurements over time. Thereby information which is normally filtered in the signal averaging process is extracted for use.

**Applications**

The non-gamma version of the MPFM 1900VI® is particularly well suited for single-well installations with low to medium GVF ranges. Moreover, in applications where the use of nucleonic sources is unacceptable due to legislation or company policy, the non-gamma version is the natural choice. For applications with very high GVF ranges, or with non-compromised accuracy requirements, the standard MPFM 1900VI® is recommended.

Roxar can advise on suitability for different applications.
**Specifications**

**System performance and characteristics**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating range</td>
<td>0-100% water in liquid ratio (WLR)</td>
</tr>
<tr>
<td></td>
<td>0-85% gas void fraction (GVF)</td>
</tr>
<tr>
<td>Typical velocity range</td>
<td>Low GVF: 1.5-15 ms</td>
</tr>
<tr>
<td></td>
<td>High GVF: 3.5-35 ms</td>
</tr>
<tr>
<td>Pipe dimensions</td>
<td>2-12 in. (43-280 mm ID)</td>
</tr>
<tr>
<td>Typical uncertainty</td>
<td>Liquid rate: +5%</td>
</tr>
<tr>
<td></td>
<td>Water cut: +3.5%</td>
</tr>
<tr>
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<td>Gas rate: +10%</td>
</tr>
<tr>
<td>Design pressure</td>
<td>Up to 690 bar (10000 psi)</td>
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<td>Operating temperature</td>
<td>Up to 150°C (302°F)</td>
</tr>
</tbody>
</table>

**Flow computer**

- **Com 1:** For service console PC
  - (RS-232/RS-485/TCP/IP)
- **Com 2:** For client interface
  - (RS232/RS485/TCP/IP)

**Communication protocol:** Modbus ASCII/RTU

**Installation:** Safe area (19”rack)/Hazardous area EEX d IIB

**Service console PC**

- **Operating system:** Windows 2000/XP
- **Software:** RFM service console

**Software**

- Optional modules:
  - PVT calculations
  - Multilingual support

**Add-on modules**

- Integrated sand detection
- Roxar Fieldwatch/Fieldmanager
- Roxar’s real-time well-data logging system
- Gamma Densitometer

**Mechanical and electrical components**

**Measurement section**

- **Wetted parts materials:** Stainless steel 316, duplex or to customer specifications
- **Flange connections:** ANSI, API or clamp flanges
- **Length:** 1200 mm (typical for 3 in.)
- **Weight:** 550 kg (typical for 3 in.)

**Sensor electronics**

- **Type:** Electrical impedance
- **Certification:** EEx ia IIC T4
- **Secondary Instruments:** Pressure, differential pressure, temperature

**Power supply**

- **Voltage:** 18-29 VDC, 100-240 VAC 50/60 Hz
- **Power consumption:** 12W (Low-power version, excluding service console)
- **Installation:** Vertical upward flow

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For further information please contact your regional office or email info@roxar.com or visit www.roxar.com

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